

Invasive plants are non-native species that have been introduced into Canada without their co-evolved natural enemies allowing them to proliferate uncontrolled, causing harm to Canada's environment and economy.

Classical biological control seeks to provide long-term, self-sustaining landscape level control by reuniting invasive species with their natural enemies to reduce their competitive advantage.

*"Invasive plants cost Canada's economy an estimated \$2.2 billion each year by impacting crops and pastures."
– Canadian Food Inspection Agency, 2026*

Since the very first biocontrol introductions in 1951, the Ministry of Forests' Invasive Plant Program (BC) and Agriculture and Agri-Food Canada (AAFC) have partnered in research to identify, develop, and deliver novel biocontrol solutions into Canada more efficient through collaborative integration of our programs, abilities and resources.

STAGES OF BIOCONTROL



PRORITIZE

The quest for biocontrol agents begins with characterization of the invasive plant problem. BC monitors invasive plant impacts, extent, rate of spread, treatment options and costs of a targeted invasive plant. Species with wide reaching or rapidly expanding extents and high impact potential are prioritized for biocontrol research. Once elevated, AAFC assesses the current scientific consensus including existing study systems, information gaps and (inter)national interest. BC and AAFC co-develop avenues to conduct research to address knowledge gaps and BC identifies funding sources to enable biocontrol research.



IDENTIFY

Once an invasive plant has been prioritized for biocontrol research, overseas exploration into the invasive plant's region of origin begins to identify co-evolved natural enemies for the target invasive plant. BC confirms provincial distribution and impacted habitat types to support AAFC in quantifying plant genetics/genotypes to guide agent selection. AAFC leads development of risk evaluation with input from BC experts and through collaboration with national and international experts. AAFC and BC identify additional potential national and international partners to support harmonized research efforts.

STUDY

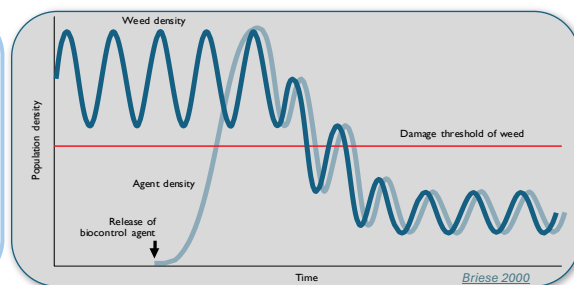
BC's funding supports overseas exploration on the target invasive plant. AAFC coordinates the Canadian risk assessment with BC and our international partners, i.e., the [Center for Agriculture and Biosciences International \(CABI\)](#). CABI and AAFC co-develop potential biocontrol solutions and co-lead safety and efficacy testing to ensure suitability for Canadian stakeholders. BC begins to identify possible release locations and liaising with the [BC Inter-Ministry Invasive Species Working Group \(IMISWG\)](#) while AAFC conducts novel studies and publishes findings on biocontrol agent biology and promise for Canadian and international audiences.

PETITION

After a biocontrol agent has been confirmed to be host-specific and impactful to the target invasive plant, AAFC prepares and submits a [petition for field release to the Canadian Food Inspection Agency \(CFIA\)](#) which is subject to expert peer-review coordinated by the [Canadian Biological Control Review Committee](#). BC supports petition development with funding and historical data. AAFC coordinates the submission of agent voucher specimens to the AAFC Canadian National Collection, and US and Mexican equivalents. BC secures suitable release sites following criteria provided by AAFC and CABI. BC circulates information on the new biocontrol agent to regional stakeholders and updates online resources and consults with Indigenous communities, local governments, diverse stakeholders and the public as part of BC's [Integrated Pest Management \(IPM\)](#) approach to addressing invasive species.

RELEASE

If CFIA approves a petitioned biocontrol agent, AAFC scales-up insect colonies in their specialized rearing facilities to support the releases of this new species into Canada. AAFC leads these initial introductions at sites secured by BC to ensure the safety and security of these agents as they establish. BC often provides field support to AAFC during these early release efforts through receiving, releasing and monitoring biocontrol agents when it is more efficient for BC to do so. AAFC leads research to evaluate efficacy of these releases under local climatic conditions and insect, and plant specimens are collected at the time of release at all sites by both groups to support AAFC's taxonomic and genomic databases. Photo plots are installed to track invasive plant response over time.



IMPLEMENT

Once the new agents have established self-sustaining populations in the field, BC and AAFC collaborate on long-term evaluation protocols and BC begins to redistribute agents across the invasion extent. BC refines the collection and release procedures and integrates the new biocontrol agent into BC's broader invasive plant management program. AAFC and BC collaborate to transfer knowledge of new biocontrol resources to affected stakeholders. All biocontrol activities are recorded in BC's database [InvasivesBC](#) and BC supports AAFC research publications on the biocontrol agents long-term field efficacy.



EVALUATE

BC leads engagement with regional stakeholders and maintains policy to ensure protection of biocontrol efforts in perpetuity. BC leads long-term monitoring to assess ecosystem recovery, tracking biocontrol agent spread and identifying any gaps in impact. BC then shares challenges and gaps, and funds AAFC to develop new research. AAFC applies its expertise in entomology, plant ecology and genomics to develop science-based solutions for invasive plant management under changing climates and conditions. This partnership further supports AAFC's research and impact at national and international scales while ensuring value for BC.

This collaborative integration of programs, expertise, and resources has proven to be a successful delivery model for new biocontrol agents in Canada required to efficiently respond to emerging invasive plant threats with cost effective and long-term solutions.